



5SMCJ11A THRU 5SMCJ170A

Surface Mount Transient Voltage Suppressors Diodes

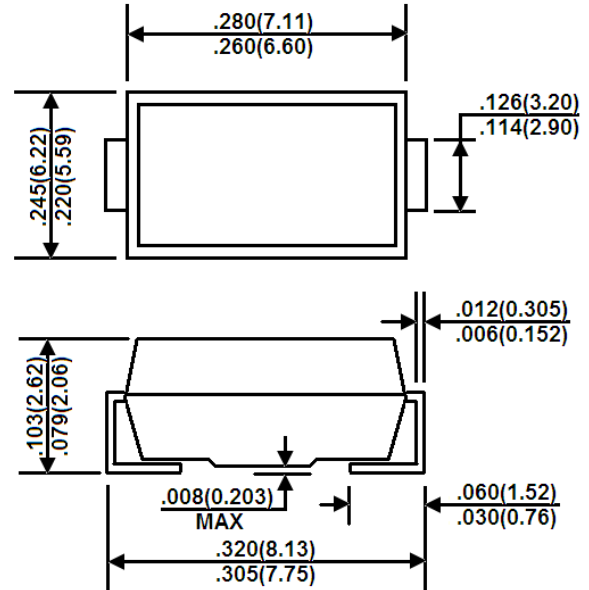
Features

- * For surface mounted application
- * Low profile package
- * Built-in strain relief
- * Glass passivated junction
- * Excellent clamping capability
- * Fast response time: typically less than 1.0ps from 0 volts to BV min
- * Typical IR less than 1μA above 10V
- * High temperature soldering: 260°C/10 seconds at terminals
- * Plastic material used carries underwriters laboratory flammability classifications 94V-0



Package Outline Dimensions in inches (millimeters)

SMC:



Mechanical Data

- * Case: Molded plastic
- * Terminals: Solder plated
- * Polarity: Indicated by cathode band
- * Standard Packaging: 12mm tape per EIA STD RS-481

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Type Number	Symbol	Value	Unit
Peak Pulse Current on 10/1000us Waveform (Note 1)	I_{PPM}	See Table 1	Watts
Peak Pulse Power Dissipation on 10/1000us Waveform (Note 1/2)	P_{PPM}	5000	Watts
Power Dissipation on Infinite Heat Sink at $T_L=75^\circ\text{C}$	P_D	6.5	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (Note 2/3)	I_{FSM}	300	Amp
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +175	°C

Note: 1、 Non-repetitive current pulse and derated above $T_A=25^\circ\text{C}$ 2、 Mounted on 8.0mm² copper pads to each terminal.
3、 8.3ms, single half sine-wave or equivalent square wave, duty cycle=4 pulses per. Minutes maximum.

Ratings and Characteristic Curves

Figure 1 - Peak Pulse Power Rating Curve

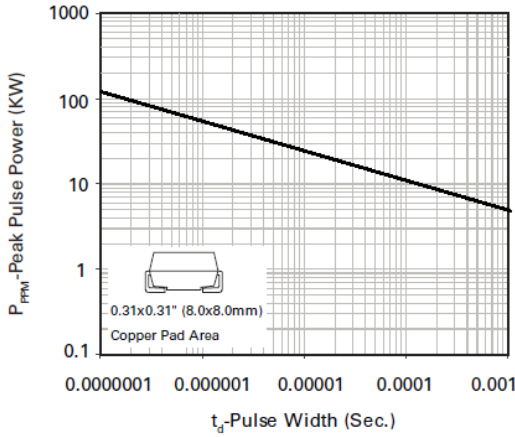


Figure 2 - Peak Pulse Power or Current Derating Curve vs Initial Junction Temperature

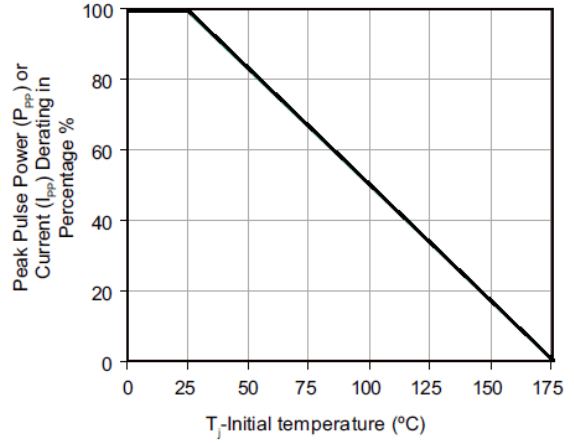


Figure 3 - Pulse Waveform

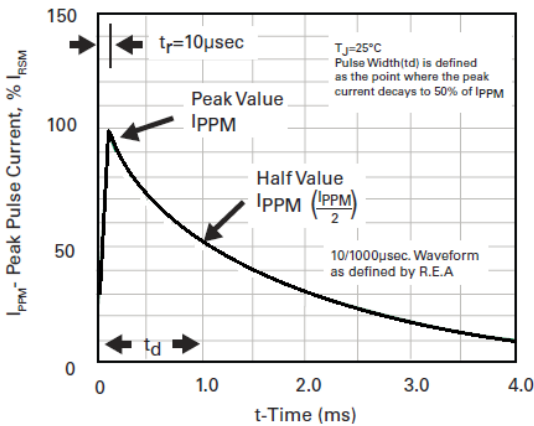


Figure 4 - Typical Junction Capacitance

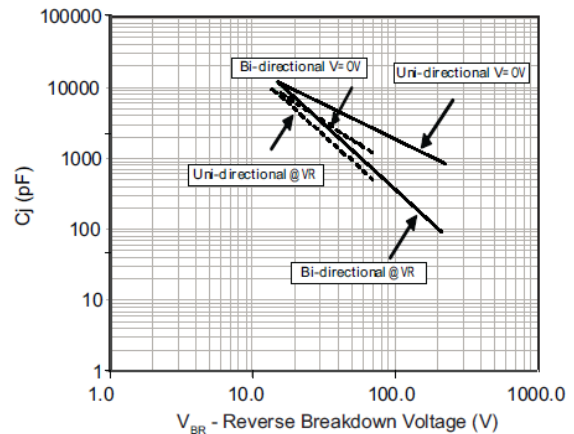


Figure 5 - Steady State Power Derating Curve

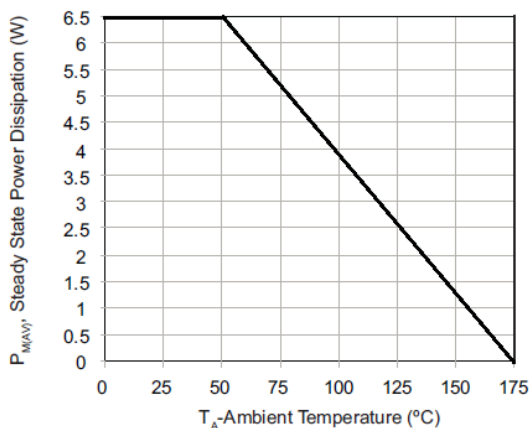
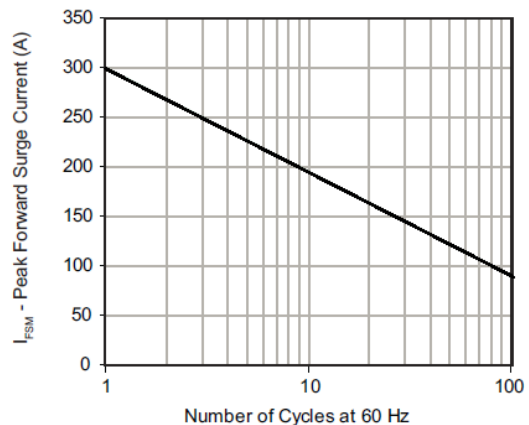


Figure 6 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only





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Electrical Characteristics @T_A=25°C unless otherwise noted

Type Number		Reverse Stand Off Voltage V _R (Volts)	Breakdown Voltage V(BR)(Volts)		Test Current I _T (mA)	Maximum Clamping Voltage V _C @ I _{PP} (Volts)	Maximum Peak Pulse Current I _{PP} (Amps)	Maximum Reverse Leakage I _R (μA) @V _R (Note1)
(Uni)	(Bi)		Min	Max				
5SMCJ11A	5SMCJ11CA	11	12.2	13.5	10	18.2	275	800
5SMCJ12A	5SMCJ12CA	12	13.3	14.7	10	19.9	252	800
5SMCJ13A	5SMCJ13CA	13	14.4	15.9	10	21.5	233	500
5SMCJ14A	5SMCJ14CA	14	15.6	17.2	10	23.2	216	200
5SMCJ15A	5SMCJ15CA	15	16.7	18.5	1.0	24.4	205	100
5SMCJ16A	5SMCJ16CA	16	17.8	19.7	1.0	26.0	193	50
5SMCJ17A	5SMCJ17CA	17	18.9	20.9	1.0	27.6	181	20
5SMCJ18A	5SMCJ18CA	18	20.0	22.1	1.0	29.2	172	10
5SMCJ20A	5SMCJ20CA	20	22.2	24.5	1.0	32.4	155	5
5SMCJ22A	5SMCJ22CA	22	24.4	26.9	1.0	35.5	141	5
5SMCJ24A	5SMCJ24CA	24	26.7	29.5	1.0	38.9	129	5
5SMCJ26A	5SMCJ26CA	26	28.9	31.9	1.0	42.1	119	5
5SMCJ28A	5SMCJ28CA	28	31.1	34.4	1.0	45.4	110	5
5SMCJ30A	5SMCJ30CA	30	33.3	36.8	1.0	48.4	103	5
5SMCJ33A	5SMCJ33CA	33	36.7	40.6	1.0	53.3	93.9	5
5SMCJ36A	5SMCJ36CA	36	40.0	44.2	1.0	58.1	86.1	5
5SMCJ40A	5SMCJ40CA	40	44.4	49.1	1.0	64.5	77.6	5
5SMCJ43A	5SMCJ43CA	43	47.8	52.8	1.0	69.4	72.1	5
5SMCJ45A	5SMCJ45CA	45	50.0	55.3	1.0	72.7	68.8	5
5SMCJ48A	5SMCJ48CA	48	53.3	58.9	1.0	77.4	64.7	5
5SMCJ51A	5SMCJ51CA	51	56.7	62.7	1.0	82.4	60.7	5
5SMCJ54A	5SMCJ54CA	54	60.0	66.3	1.0	87.1	57.5	5
5SMCJ58A	5SMCJ58CA	58	64.4	71.2	1.0	93.6	53.5	5
5SMCJ60A	5SMCJ60CA	60	66.7	73.7	1.0	96.8	51.7	5
5SMCJ64A	5SMCJ64CA	64	71.1	78.6	1.0	103	48.6	5
5SMCJ70A	5SMCJ70CA	70	77.8	86.0	1.0	113	44.3	5
5SMCJ75A	5SMCJ75CA	75	83.3	92.1	1.0	121	41.4	5
5SMCJ78A	5SMCJ78CA	78	86.7	95.8	1.0	126	39.7	5
5SMCJ85A	5SMCJ85CA	85	94.4	104	1.0	137	36.5	5
5SMCJ90A	5SMCJ90CA	90	100	111	1.0	146	34.3	5
5SMCJ100A	5SMCJ100CA	100	111	123	1.0	162	30.9	5
5SMCJ110A	5SMCJ110CA	110	122	135	1.0	177	28.3	5
5SMCJ120A	5SMCJ120CA	120	133	147	1.0	193	26	5
5SMCJ130A	5SMCJ130CA	130	144	159	1.0	209	24	5
5SMCJ150A	5SMCJ150CA	150	167	185	1.0	243	20.6	5
5SMCJ160A	5SMCJ160CA	160	178	197	1.0	259	19.3	5
5SMCJ170A	5SMCJ170CA	170	189	209	1.0	275	18.2	5

- Note: 1. For bi-directional types having V_{WM} of 20 volts and less, the I_R limit is doubled.
 2. Add suffix "C" or "CA" after type number to specify bi-directional devices.
 3. . Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device



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Ordering Information

Part No.	Package	Packing
5SMCJ11A THRU 5SMCJ170A	SMC	3K/Reel